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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/775,209	02/01/2001	Mohammad B. Shabani	JG-SU-5038 / 500577.2	7110

7590 08/20/2003  
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EXAMINER

NGUYEN, TU T

ART UNIT PAPER NUMBER

2877

DATE MAILED: 08/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/775,209

Applicant(s)

SHABANI ET AL.

Examiner

Tu T. Nguyen

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-20 is/are rejected.
- 7) ☒ Claim(s) 2 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_ 6) ☐ Other: \_\_\_\_.

Detailed Office Action

*Abstract*

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

For this application, the abstract is more than 150 words.

*Claim Objections*

Claim 1 is objected to because of the following informalities:

Claim 1, line 13, "the residue" is lack of antecedent basis.

*Claim Rejections - 35 U.S.C. § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3,8,18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- 1) Claim 3, line 5, “the yield” is not clear. Does Applicant means the “acid mixture”?
- 2) Claim 8, line 2; claim 18, line 1, “substrate(s)” is indefinite. Does Applicant mean “plurality of substrates” or “a substrate”?

### ***Claim Rejections - 35 U.S.C. § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1,3-10,13-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tokuoka et al (5,849,597).**

With respect to claim 1, Tokuoka discloses a method for analyzing impurities in a silicon substrate. The method comprises: accommodating a silicon substrate 7 (fig 3) resting on a support 6 (fig 3), a solution 8 (fig 3) in a tightly seal reaction vessel 1 (fig 3) in such a way as to keep the silicon substrate from directly contacting with the solution, allowing the solution to vaporized (column 2, lines 1-40), analyzing the substrate (abstract).

Tokuoka does not disclose sulfuric acid. However, it would have been obvious to modify Tokuoka’s solution by adding the known sulfuric acid to test different type of impurity

in the silicon substrate.

With respect to claims 3-4,6-7,9-10,13-14,16-17,19-20, Tokuoka discloses heating the solution (column 2, lines 1-40). However, Tokuoka does not discloses heating the solution to 60-90 degrees. It would have been obvious a design choice to modify Tokuoka to heat the solution to different temperature levels for different purposes. Further, the claimed spectroscopy would have been known. It would have been obvious to modify Tokuoka's method with different types of spectroscopy for utilizing the testing.

With respect to claims 5,15, Tokuoka does not disclose plates made of a fluorine resin. However, the skill artisan would have been motivated to modify Tokuoka's system with the fluorine resin plates to facilitate the testing.

With respect to claims 8,18, Tokuoka discloses a plurality of breakers 9 (fig 4).

**Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tokuoka et al (5,849,597) in view of Abe et al (6,204,188).**

With respect to claim 11, Tokuoka discloses a tightly seal container 1 (fig 3) and a support 6 (fig 3) for holding the substrate above the solution (fig 3). Tokuoka does not disclose using a pillar with an integral surface for holding the substrate above the solution. Abe discloses a pillar 6-7 (fig 1) to hold a substrate 8 (fig 1). It would have been obvious to modify Tokuoka with Abe's pillar and modify Abe's pillar with an integral surface to hold the

substrate better.

With respect to claim 12, it would have been a design to modify the support with different materials such as a fluorine resin to utilize the testing.

*Allowable Subject Matter*

Claim 2 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

With respect to claim 2, the prior arts of record does not disclose the mixing ratio as disclosed in claim 2 in combination with all the limitations in claim 1.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tu T Nguyen whose telephone number is (703) 306-9185. The examiner can normally be reached on M-T 7:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G Font can be reached on (703) 308-4881. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

A handwritten signature in black ink, appearing to read 'T. Nguyen', with a long, sweeping horizontal line extending to the right.

**Tu T. Nguyen**  
**Primary Examiner**  
**Group Art Unit 2877**

8/8/03